

Percents %

Name. _____

GOAL Write percents as decimals and fractions.

VOCABULARY

A percent is a ratio that compares a number to 100. The word percent means "per hundred," or "out of 100." The symbol for percent is %.

To write a percent as a decimal:

Divide the value by 100. $72\% = 72 \div 100 = 0.72$

To write a percent as a fraction:

Rewrite the percent using a denominator of 100. Simplify if possible. $86\% = \frac{86}{100} = \frac{43}{50}$

EXAMPLE 1 Writing Ratios in Different Forms

Write the ratio 27 out of 100 as a percent, a decimal, and a fraction.

Percent: 27%

Decimal: 0.27

Fraction: $\frac{27}{100}$

EXAMPLE 2 Writing Percents

Write the number in words and as a percent.

a. 0.27

b. 8, or $\frac{800}{100}$

c. $\frac{11}{100}$

d. $\frac{18.4}{100}$

Solution

a. twenty-seven hundredths,
or 27%

b. eight-hundred hundredths,
or 800%

c. eleven hundredths,
or 11%

d. eighteen and four tenths hundredths,
or 18.4%

EXAMPLE 3 Writing Percents in Different Forms

a. Write 45% as a fraction.

$$45\% = \frac{45}{100} = \frac{9}{20}$$

b. Write 31.6% as a decimal.

$$31.6\% = 31.6 \div 100 = 0.316$$

Exercises for Example 3

Write the percent as a decimal and a fraction.

13. 8%

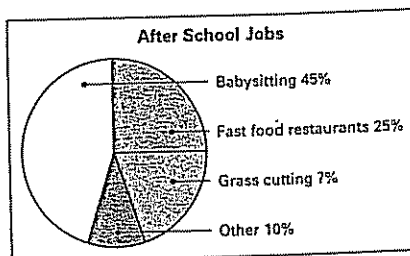
14. 35%

15. 25%

16. 82.3%

EXAMPLE 4 Circle Graphs with Percents

In a survey, 100 students were asked to describe their after school jobs. The results are shown as percents.



- What percent of the students responded "Grass cutting"?
- How many of the 100 students surveyed responded "Babysitting"?

Solution

a. The circle graph represents 100%. The sum of the percents given is $45\% + 25\% + 10\% = 80\%$, so the "Grass cutting" part is $100\% - 80\% = 20\%$.

b. You can write 45% as $\frac{45}{100}$, so 45 students responded "Babysitting".